

REMARKS

The Examiner is thanked for the performance of a through search. By this amendment, the Specification is amended. Claim 1 is amended, Claims 19-22 are cancelled, and new Claims 23-43 are added. Hence, Claims 1-18 and 23-43 are pending in the application.

1. ISSUES RELATING TO INFORMALITIES

The Office Action objects to the specification because on page 11, line 20 the Phrase “IP source address” is written twice. In this reply, the specification is amended to address the informality. Reconsideration is respectfully requested.

The Office Action objects to Claims 20 and 22 because the word “apparatus” should be “device.” In this reply, Claims 20 and 22 are cancelled; therefore, the objections are moot.

2. THE REJECTION UNDER 35 USC 112, FIRST PARAGRAPH

Claims 4-6 and 17-21 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office Action states that the claim(s) contain subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In this reply, Claims 19-21 are cancelled, and therefore the rejection is moot with respect to those claims. With respect to Claims 4-6 and 17-18, the rejection is respectfully traversed.

Section 112 establishes a standard of enablement for a “person skilled in the art” to which the invention pertains. The present invention generally pertains to software and circuit architecture for routers as used in packet-switched networks. The Office cannot reasonably dispute that in this art, the level of skill is high. Inventors, engineers, and others practicing in the

field typically have at least an undergraduate university degree in electrical engineering or a closely related field, with coursework or on-the-job training in semiconductor circuit design.

While the Office states that “the specification fails to adequately describe a single monolithic semiconductor circuit,” providing a gate-level description of such a circuit is not customary in the field. The highly skilled practitioners in the field are accustomed to receiving specifications in block diagram form and implementing them in specific circuitry. Leaving out gate-level or circuit-level detail is customary because practitioners know these details or acquire them using software-based circuit design tools. For example, all the references cited by the Office as prior art in this case are disclosed using block diagrams of circuit architectures.

Further, the present applicants’ own Specification recognizes the high level of skill in the art by stating that “[t]hose skilled in the art would recognize after perusal of this application that embodiments of the invention can be implemented using circuits adapted to particular process steps and data structures de-scribed herein, and that implementation of the process steps and data structures described herein would not require undue experimentation or further invention.” (Page 4, first full paragraph.) One skilled in the art would understand how to use and implement the use of circuits in the claimed method and apparatus. Furthermore, one skilled in the art would know that a single monolithic semiconductor circuit is a type of circuit that could be used in implementation of the apparatus.

For clarification, applicants have amended Claims 4-6 and 17-18. Further, the specification is amended to conform it to the claims; since the claims form part of the original disclosure, no new matter is introduced.

For these reasons, applicants believe that the rejection has been fully addressed, and that Claims 4-6 and 17-18 comply with the requirements of 35 U.S.C. § 112, first paragraph.

Reconsideration is respectfully requested.

3. ISSUES RELATING TO 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 19 and 20 are rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 19-22 have been cancelled, and therefore the rejection thereof is no longer at issue.

4. ISSUES RELATING TO PRIOR ART

Claims 1-3, 7-16 and 19-22 were rejected under 35 U.S.C. § 102(a) as being unpatentable over Hoffman. Claims 19-22 have been cancelled, and therefore the rejection is moot as to those claims. With respect to Claims 1-3 and 7-16, the rejection is respectfully traversed.

An anticipation rejection cannot stand if a rejected claim contains one or more elements, limitations or steps that are not found in the cited prior art reference. See *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548, 220 USPQ 193, 198 (Fed. Cir. 1983). Here, Claim 1 as amended recites at least one feature not found in Hoffman. Specifically, Claim 1 recites a first device comprising logic for extracting packet information **without performing packet forwarding decisions**, and a second device that **performs generating packet forwarding information substantially for first packets substantially in parallel with said first device performing extracting packet information for other packets**. Applicants' specification shows that the separation of functionality and parallelism recited in Claim 1 is a significant advance over the prior approach of having the same device both extract header information from a packet and perform a routing or forwarding decision. In one embodiment of Applicants' design, a packet-processing engine rapidly extracts header information from inbound packets, and is responsible only for that function; the packet-processing engine continuously forwards the extracted header information to a separate fast forwarding engine, which is responsible for performing forwarding decisions, without the burden of extracting header information.

Hoffman represents the old approach. See Hoffman col. 9, lines 19-47. In Hoffman, forwarding logic 52 both locates header information (col. 9, line 30-36) and determines forwarding actions (col. 9, line 43-47).

The Office Action suggests that the first device of Claim 1 is taught or suggested by Hoffman's reference to an "Input Port" as well as the "forwarding logic." However, the input port of Hoffman is not involved in extracting packet information as recited in Claim 1. In Hoffman, an input port "receives packets from its respective multi-layer network element port and test the packet for correctness. Packets passing the initial screening are temporarily buffered by the input port ... [which] passes the header for the forwarding logic." (col. 9, lines 19-25.) The "screening" operation is not the same as extracting header information, as recited in Claim 1. Hoffman's input ports are not involved in extracting header information.

The Office Action further asserts that Claim 1's reference to "a second device" is taught or suggested by Hoffman's description of the "forwarding memory" and the "associated memory." However, the forwarding memory and associated memory of Hoffman cannot correspond to the recited "second device" because the forwarding memory and associated memory of Hoffman do not perform the functions recited in Claim 1. The forwarding memory is a content-addressable memory (col. 9 lines 42-44) that is not capable of "generating packet forwarding information and output port information." As a memory device, the "associated memory" also is not capable of "generating packet forwarding information and output port information" as in Claim 1. The memories of Hoffman store information that provides a basis for forwarding decisions, but do not perform **generating** the forwarding information or decisions.

For the reasons stated above, Claim 1 recites at least one feature not found in Hoffman. Therefore, Hoffman cannot support an anticipation rejection of Claim 1. Reconsideration is respectfully requested.

Claim 10 has been amended with the same features described above with respect to Claim 1. Thus, Hoffman cannot anticipate Claim 10 for the same reasons given above with respect to Claim 1. Additionally, in Claim 10 the “second device including a decision generator having an input coupled to the first device and having an output device to the first device” cannot equate to Hoffman’s forwarding memory, as stated by the Office Action. The forwarding memory is only a memory device and does not contain a “decision generator” as recited in Claim 10. (See Hoffman col. 9 lines 39-48).

Furthermore, the arguments of the Office Action are internally inconsistent. The Office Action states that the “first device”, as recited in Claim 10, correlates to Hoffman’s description of “the switching element,” and the “second device” of Claim 10 correlates to Hoffman’s description of the “forwarding memory.” However, the switching element of Hoffman and the Forwarding memory of Hoffman are not two separate devices. The switching element is the device that contains the forwarding memory. It is therefore impossible for Hoffman to teach or suggest that “the first device is responsive to a forwarding treatment from the second device to determine a set of the output interfaces on which to couple the packet,” as recited in Claim 10.

For these reasons, Claim 10 is patentable over Hoffman. Reconsideration is respectfully requested.

Each of Claims 2-3, 7-9, and 11-16 is a dependent claim that depends, directly or indirectly, on either Claim 1 or Claim 10. Therefore, each of Claims 2-3, 7-9, and 11-16 incorporates the features described above for Claim 1 and Claim 10 that distinguish the claims from Hoffman. Accordingly, Hoffman does not anticipate Claims 2-3, 7-9, and 11-16. Reconsideration is respectfully requested.

Claims 4-6, 17 and 18 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Hoffman in view of Fritage Jr. The Office Action states Hoffman discloses all the claim

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limitations as stated above but that Hoffman does not expressly disclose a single monolithic semiconductor circuit. Fritage Jr. is relied on for disclosing a single monolithic semiconductor circuit. The Office Action asserts that it would have been obvious to one ordinary skilled in the art to substitute a single monolithic semiconductor, to the multi-layer network element of Hoffman.

The rejection is respectfully traversed. Each of Claims 4-6, 17 and 18 depends, directly or indirectly, from Claim 1 or Claim 10 and therefore incorporates the features of amended Claims 1 and 10 that are discussed above. Hoffman fails to provide all the features of Claims 1 and 10. Therefore, any combination of Hoffman and Fritage Jr. does not provide the invention as claimed. At most, the proposed combination would provide a circuit in which the same element performs both packet information extraction and determining routing decisions or forwarding information. This is not what is claimed.

For these reasons, Claims 4-6, 17 and 18 are patentable over Hoffman in view of Fritage Jr., and reconsideration is respectfully requested.

5. CONCLUSIONS

For the reasons set forth above, it is respectfully submitted that all of the pending claims are now in condition for allowance. The Examiner is respectfully requested to contact the undersigned by telephone if it is believed that such contact would further the examination of the present application.

To the extent necessary, applicants petition for an extension of time under 37 C.F.R. 1.136. A check for applicable additional claim fees and extension of time fees is attached. If the check is missing or insufficient, and throughout the pendency of this application, the Director is

authorized to charge any applicable fees and to credit any over-payments to our Deposit Account

No. 50-1302.

Respectfully submitted,

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